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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,918	08/20/2002	Gerard Debailleul	4006-007-30	2987

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EXAMINER

SELF, SHELLEY M

ART UNIT PAPER NUMBER

3725

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,918

Applicant(s)

DEBAILLEUL, GERARD

Examiner

Shelley Self

Art Unit

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17 and 19-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 17, 19-27, 30, 32 and 33 is/are rejected.
- 7) ☐ Claim(s) 28, 29, 31 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The amendment filed on February 4, 2005 has been carefully considered and an action on the merits follows.

Upon further consideration, the indication of allowable subject matter noted in the previous Office Action is withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 25 appears to alter or change the scope of the previous parent claim 17, i.e. claim 17 is drawn to a process and thus the scope encompasses the method steps associated with that process. Claim 25 is drawn to a plant with the details of the plant and therefore changes/alters the scope of the claims to encompass a plant. Claim 25 fails to further limit the parent claim 17. Examiner suggests, re-writing claim 25 in independent form including all of the limitations of the base claim 17.

With regard to claims 26 and 27, the term, "if necessary" renders the claim indefinite. For example it is not clear as to whether the reactor or neutralizing device has a filter or not. Clarification is required.

With regard to claim 30, it is unclear what "it" (line 1) refers to. Examiner suggests, --
said device— or —said plant—

Claim 25 would be allowable if re-written to overcome the 35 U.S.C. 112 rejection(s) noted above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17, 19, 20-22, 32 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Myers et al. (5,798,394). With regard to claims 17, 20 and 32, Myers discloses a process for treating vulcanized rubber waste the process comprising: course cutting said waste into fragments (col. 2, lines 50-53) and attaching said fragments using a molten pure base (col. 2, lines 58-60, col. 3, lines 17-20 & col. 4, lines 56-58), characterized in that said attacking of the fragments is carried out under temperature conditions causing, in the presence of molten pure base NaOH, as said molten pure base deconsolidation of the vulcanized rubber waste into deconsolidated solid fragments of polymeric composition (col3, lines 52-68, col. 4, lines 56), and in that the process further comprises separating said molten base from said deconsolidated solid fragments (col. 4, lines 64-68), neutralizing the deconsolidated solid fragments, and recycling or

Art Unit: 3725

reutilizing the neutralized, deconsolidated solid fragments (col. 1, lines 8-10, col. 4, lines 67, col. 5, lines 10-12).

As to the use of NaOH (sodium hydroxide), Myers discloses initially using an alkali metal, preferably sodium and then injecting water to create sodium hydroxide (col. 4, lines 56-58), under temperature controlled conditions, thus utilizing a NaOH molten base. Examiner notes that the claim as written does not specify the use of NaOH at specific steps during the devulcanizing process and only states, a "...NaOH molten pure base...".

With regard to claim 19, Myers discloses separating deconsolidated fragments and recovery of the fragments (col. 4, lines 63-67).

With regard to claims 21 and 33, Myers discloses the molten NaOH treatment temperature is at most 400°C or 350°C (col. 3, lines 60-61, and col. 2, line 56). Examiner understands "at most" to mean not to exceed; Myers discloses temperatures of 300°C and below, and therefore it meets the "at most" terminology.

With regard to claim 22, Myers discloses deconsolidated solid fragments comprises metal fragments and fragments made of synthetic material and in that the process furthermore includes sorting between the metallic and synthetic deconsolidated fragments before they are recycled or reutilized (col. 2, lines 53-57).

With regard to claim 23, Myers discloses a closed system (col. 3, lines 34-39 and col. 4, lines 56-58).

With regard to claim 24, Myers discloses at least one dilute acid. Myers discloses the use of hydrogen sulfide (col. 5, lines 46-58), Examiner notes that an acid is a hydrogen-containing

Art Unit: 3725

ion or molecule ready to give up or accept a proton; hydrogen sulfide has acidic ph levels and is therefore acidic.

Allowable Subject Matter

Claims 28, 29, 31 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose a plant for treating vulcanized rubber comprising a reactor causing deconsolidation of vulcanized-rubber waste into solid fragments of polymeric composition, a separating, *neutralizing* and *sorting device connected to the neutralizing device* in combination with the rest of the claimed limitations as set forth in claim 25.

Additionally, the prior art reference fails to disclose a dilute acid is phosphoric acid.

The prior art reference, Myers et al. (hereinafter referred to as Myers) discloses a rubber devulcanization process for handling used tires and rubber waste/scrap. Myers discloses rubber waste shredded/coarse cut to create a rubber crumb, metal/steel removed from the rubber waste, the crumb is dispersed in a solvent into a reaction vessel and an alkali metal (i.e. sodium) is added to the rubber crumb and solvent. The mixture is then stirred while being heated, heating is continued so as to devulcanize the rubber waste. The devulcanized rubber is subjected to a quenching step, water is injected into the mixture and stirred, thus sodium hydroxide (NaOH) results. A solvent/rubber polymer results after the quenching and if necessary cooling step. Carbon black is then filtered from the polymer, resulting in carbon black being recycled or

Art Unit: 3725

reusable and a rubber polymer able to be used. Myers does not disclose the neutralizing device and sorting device. Instead Myers teaches that the quenching/neutralizing step is completed in the reactor, (i.e., water is injected into the sodium, crumb solvent, col. 4, lines 55-58). Further, Myers does not disclose a dilute acid, as phosphoric acid. Accordingly, Myers fails to anticipate or render obvious the claimed invention as set forth in claim 25.

Neither the prior art of record, nor any combination thereof discloses the claimed invention as set forth in claim 25.

Claim 25 would be allowable if re-written in independent form including all of the limitations of the base claim.

Claims 26, 27 and 30 would be allowable if re-written to correct the 35 U.S.C. 112 rejections noted above.

Conclusion

Due to the new ground(s) of rejection noted above, this Office Action is made non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelley Self whose telephone number is (571) 272-4524. The examiner can normally be reached Mon-Fri from 8:30am to 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Derris Banks can be reached at (571) 272-4419. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular and After Final communications.

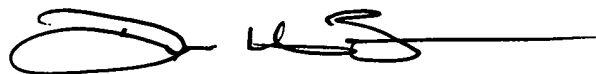
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 3725

may be obtained from either Private PAIE or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SSelf

May 26, 2005



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